Volume Title: The Economics of Art Museums

Volume Author/Editor: Martin Feldstein, editor

Volume Publisher: University of Chicago Press

Volume ISBN: 0-226-24073-8

Volume URL: http://www.nber.org/books/feld91-1

Conference Date: Nov. 30 - Dec. 2, 1989

Publication Date: January 1991

Chapter Title: Tax Policy Toward Art Museums

Chapter Author: Don Fullerton

Chapter URL: http://www.nber.org/chapters/c11643

Chapter pages in book: (p. 195 - 236)

8 Tax Policy Toward Art Museums

Don Fullerton

8.1 Introduction

As nonprofit organizations, art museums are exempt from federal income tax in the United States. This exemption does not mean that tax rules have no effect on museums, however. Far from it. The various tax instruments affect art museums indirectly but dramatically. They change the incentives of individuals and corporations to make donations of art, they change the relative cost of raising capital for museum projects, and they change the incentives of museums to make passive investments in securities rather than active investments in unrelated businesses.

Tax policy provides an extra incentive to make charitable donations through the deduction against income tax or estate tax for such gifts. At the current top marginal, personal income-tax rate of 28 percent, a dollar gift only costs the taxpayer 72 cents, because the government gives up 28 cents that might otherwise be collected.

For art museums, a particularly important form of donation is artwork that has appreciated in value since the time of acquisition by the donor. In this case, the taxpayer may get a "double incentive." Itemizers are allowed a deduction against ordinary income for the whole value of the gift, and, in addition, the regular tax system forgoes capital gains tax on the appreciation. Since the capital gains tax was raised by the 1986 Tax Reform Act to the ordinary personal rate, this additional tax forgiveness has become more important for some.

For example, suppose that a potential donor in the 28-percent rate bracket

Financial support was provided by a grant from the Olin Foundation to the National Bureau of Economic Research. The author is grateful for helpful suggestions from Charles T. Clotfelter, Marion Fremont-Smith, Saul Levmore, Jeffrey Owens, Joel Slemrod, Hilary Sigman, and especially Martin Feldstein. The research reported here is part of the NBER's research program in taxation. Any opinions expressed are those of the author and not those of the National Bureau of Economic Research.

has a painting now worth $10,000 that was purchased for $8,000. The $10,000 deduction saves $2,800 of tax on ordinary income, and giving the painting instead of cash saves another $560 of tax on the capital gain (the 28-percent rate on the $2,000 of appreciation). By saving $3360, under the regular tax, the donor only gives up $6640. If the alternative is to sell this property, we say that the price of a $1 dollar gift is only 66.4 cents. On the other hand, the appreciation on donated property might make the taxpayer subject to the "alternative minimum tax" (AMT), with more complicated rules as described below.

For those of us who have always lived with such a system, these rules may seem like the logical consequence of private giving to a public cause. The tax base is supposed to reflect one's ability to pay, and charitable gifts reduce this ability by reducing disposable income (Andrews 1972). In this view, the deduction is part of the definition of income, rather than a special incentive. An alternative view is that income before gifts is a proper measure of control over resources and therefore represents one's ability to pay tax. Donors can be said to feel just as much value from their gifts as from their other consumption expenditures, or else they would not give. They are buying privileges of membership, a plaque on the donation, a little prestige, or at least some personal satisfaction. There is no logical necessity to exempt gifts. This alternative view implicitly underlies the government's estimates of the "tax expenditure" budget, showing the amount of tax that would have been collected without each such deduction.[1]

Under either view, the tax system clearly provides more incentive for charitable gifts than if there were no deduction. If this incentive induces more donations of art, then tax policy affects art museums. This paper will look at measures of this incentive and its effect.

Similarly, the government does not tax the endowment income of charitable organizations like museums. There is no explicit effect, either tax or subsidy. However, taxes levied on the rest of the economy serve to raise the cost of other activities relative to the cost of museum activities. In this sense we say that there is an "implicit subsidy." With limited economic resources to go around, a tax system that discourages certain uses of resources necessarily encourages other untaxed uses of resources. The tax system thereby impacts museums. I discuss these implicit subsidies, while the paper by Charles T. Clotfelter (chap. 9 in this volume) discusses explicit government subsidies.

The next section provides an overview of the various forms of indirect federal aid to art museums. It measures the rate of the implicit subsidy, and it provides a rough calculation of the size of the tax expenditure. It briefly discusses the justifications for public support and provides empirical evidence on willingness to pay.

1. At the U.S. Treasury Department, Neubig and Joulfaian (1988) estimate that the total tax expenditure for the charitable deduction would have been $16.45 billion in 1988 under the old law, but it was reduced to $12.87 billion by the lower rates of the Tax Reform Act of 1986.

These preliminaries accomplished, following sections attempt to document the actual effects of tax policy on art museums. Section 8.3 discusses the tax rules for individuals' gifts in other countries, provides a brief history of rules in the United States, and considers the recent reduction of marginal tax rates and the inclusion of appreciated property in the alternative minimum tax. It finds that the reduction of rates in the 1986 Tax Reform Act may depress gifts to art museums by as much as 24 percent. Section 8.4 analyzes incentives provided by the income tax exemption and the unrelated business income tax. It finds that the combination of tax advantages does reduce the cost of capital, but the result is still not "unfair" to other businesses as long as the rules do not change unexpectedly. This section also discusses rules for gifts of art by firms under the corporate income tax, and bequests of art under the estate and gift tax. A final section offers conclusions.

8.2 Implicit Subsidy and Tax Expenditure

A precise estimate of the implicit subsidy going to art museums is not possible, but a rough calculation indicates that the implicit federal tax advantages may be larger than all other sources of federal aid. This section discusses the rate of subsidy, the fraction of museum funds from tax expenditure, the philosophical justification for subsidy, and survey evidence on desires to subsidize the arts.

8.2.1 The Rate of Implicit Subsidy

For some background information on those who give to the arts, consider table 8.1. For each income group listed in column 1, the weighted average of personal marginal tax rates is shown in column 2. Groups above $50,000 per year are all near the top marginal rate, and column 3 shows that almost all of these taxpayers itemize deductions and therefore receive an incentive for their gifts. Column 4 shows the percent of gifts in each bracket that is property rather than cash. The top income group gives up to 30 percent in property, but the relevant percentage for gifts to art museums may be even higher. Then, column 5 shows that gifts to culture are very highly concentrated in the uppermost income brackets—where taxpayers have high tax rates and itemize deductions. Therefore gifts to the arts tend to receive a larger implicit subsidy than most charitable gifts.

In the example above, at the 28-percent rate, the gift of property had a price of 66.4 cents per dollar given. This example was chosen to be representative, as can be seen in the last column of table 8.1. This column uses a general formula described later (appendix A, equation [3]) to account for gifts to culture in each rate bracket, with different percentages of the gift being appreciated property. Since the overall average price is 67 cents per dollar given, the tax expenditure is approximately one-third of total individual donations to culture.

Of the private support to art museums, most comes from individuals. As

Table 8.1 **Marginal Tax Rates and the Price of Giving to the Arts**

AGI Group (1)	Marginal Tax Rate (2)	Percent Itemizers (3)	Percent Property (4)	Gifts to Culture (5)	Price of Giving (6)
0–10K	2.0	5.1	8.4	.0	.98
10–20K	15.9	20.5	8.7	.0	.83
20–30K	17.9	43.1	8.5	.0	.81
30–50K	21.5	67.2	9.2	.0	.78
50–75K	27.8	85.3	12.9	16.6	.70
75–100K	29.1	85.3	14.8	10.9	.69
100–200K	32.2	92.6	17.2	17.5	.65
200K +	28.9	93.8	30.9	55.0	.67
Total				100.0	.67

Notes and sources (by column): (1) AGI = adjusted gross income, in K = thousands of dollars; (2) and (3) weighted average in each group, for the Tax Reform Act of 1986, from U.S. Treasury Dept.; (4) Statistics of Income (SOI 1988), Internal Revenue Service, for tax year 1985 (before appreciated property placed under the alternative minimum tax; (5) calculated from Clotfelter (1985b, 213) and SOI for 1985; and (6) calculated from appendix equation (3) using column 2 for t and g, column 4 for $(1 - C)$, $a = .5$ for the ratio of appreciation to value, and assuming that the alternative is immediate consumption. These prices apply to itemizers, but there are very few nonitemizers in the top few brackets with gifts to culture. See section 8.3.6, "Rate Reduction and Giving to Art Museums."

described later in this paper, some gifts are from corporations that can take deductions at their 34-percent rate. Some funds are received as bequests, deducted at various estate-tax rates. For the rough calculations here, suppose that the overall average of these implicit subsidy rates is about one-third. Another implicit subsidy to art museums is the nontaxation of investment income. In this case the tax expenditure is measured relative to the other extreme where that income also would have been taxed by one-third. A final possible component of tax expenditure is the nontaxation of operating revenues or earned income from admissions, sales, restaurants, parking, and other fees.

8.2.2 An Estimate of the Tax Expenditure

Consider the following sources of support in 1988 for the 155 art museums surveyed in 1989 by the Association of Art Museum Directors:

Operating revenue (earned income)	$122.4 million	14.0%
Private support (contributed income)	235.0	27.0%
Value of art donated	77.3	8.9
Total federal support	95.7	11.0
Total state and local support	168.7	19.3
Endowment income	173.0	19.8
Total	872.1	100.0

Annual budgets of museums usually leave aside the value of art that is donated, since budgets are supposed to account only for dollar flows. These donations represent additional assets to museums, however, and so they are part of "economic" income. This art also receives an implicit subsidy. These figures therefore show that 35.9 percent of total economic income is received in donations of cash and art.

With these figures, the tax expenditures can now be calculated. The deductions of gifts to art museums are worth about one-third of this 35.9 percent figure, or about 12 percent of economic income. The nontaxation of endowment income is worth another one-third of the 19.8 percent of income from this source, or 6.6 percent of economic income. A third form of tax expenditure is the nontaxation of net operating revenues. Estimates are not available here because the figures do not show all of the costs of the store, restaurant, parking, or special events. In combination, however, just the first two implicit federal subsidies provide 18.6 percent of museum income, an amount substantially larger than the 11 percent coming from all other direct federal aid. Since this direct federal spending includes the financing of five large government museums (see Clotfelter, this volume), the implicit subsidy for private museums must be much larger than direct spending.[2]

8.2.3 The Justification for Public Support

The purpose of this paper is to document the economic effects of tax rules on art museums, but a discussion of the philosophical case for implicit or explicit subsidies may help put these rules in perspective. Books have been written on this subject (e.g., Netzer 1978; Banfield 1984; and Weisbrod 1988), so the discussion here will be brief.

The primary economic argument for providing a government subsidy to art museums is that individuals should not be charged more for any service than the cost of providing that service to the individual. In the case of museums, the cost of an additional visitor may be very low most of the time, or essentially zero. In this case, an admission fee might discourage visitors who could benefit without imposing any costs. Economists say that the art museum is "nonrival," in the sense that many can benefit without using it up. Equivalently, we say that the cost of serving an incremental "customer" is less than the average cost. Note, by the way, that visits during busy times or for popular exhibitions might well cause crowding, so an appropriate admission fee could induce visitors to recognize the congestion costs they impose.

If visitors during uncongested hours are not charged, however, and others are charged only the incremental cost of their visits, then total revenue will be far less than the total cost of operating the museum. In order to stay in business, the museum would need some support.

2. Perhaps due to recent rate reductions, the tax expenditure estimated here is smaller than the estimate of Schuster (1986, 320) that "taxes forgone through various arts-related tax incentives provide three times the amount of direct aid to the arts from all levels of government."

Of course, not every service would deserve a subsidy just because the revenue that results from charging incremental costs falls short of the total cost of providing the service. To justify the subsidy, it must also be true that the total value to the users of the service at least equals the total cost of providing the service. Total costs and benefits must be measured empirically, and those who argue for a museum subsidy have implicitly judged that the condition has been met.

Another type of justification for public support of art museums is that benefits flow to many individuals in society and not just to those who visit the museum. The preservation and display of artistic treasures provide national prestige, educational benefits, cultural enrichment, and inherent aesthetic value. They provide the option of future visits, even to those who are not currently visiting. A self-supporting art museum would not take these other benefits into account, so we say these benefits are "external." Again the private market breaks down, because total benefits exceed the amount that can be collected. The size of the external benefit is subject to measurement, but a subsidy can correct the imbalance.[3]

Other arguments have been suggested as justifications for a subsidy of art museums. One of the most straightforward simply states that the public does not properly appreciate art museum services, and that a subsidy is justified to induce them to consume more than they otherwise would. The trouble with this so-called merit good argument is that it can be applied to anything that the advocate factors. It also is impossible to measure. Like most economists, I reject a case for government subsidy based on these paternalistic sentiments.

Finally, free admission to art museums can be more significant for the poor than for the middle- and upper-income groups. Statistical evidence on museum attendance shows that visits rise sharply with income, however. Feld, O'Hare, and Schuster (1983) find that the top income group, representing 8 percent of the population, accounts for 18 percent of the visits to art museums, while the bottom income group, representing 8 percent of the population, accounts for about 2 percent of visits to art museums.[4] Therefore, subsidizing museums cannot be justified as a favorable redistribution policy.

Feld, O'Hare, and Schuster (1983) also note that the benefits of visits to

3. See Baumol and Bowen (1966), Netzer (1978), Radich (1987), Scitovsky (1983), Simon (1987), and Weisbrod (1975) for discussions of external effects and the form of the subsidy.

4. Their data derive from the 1975 survey *Americans and the Arts* (Louis Harris and Associates). The 1988 survey does not show the number of visits on a comparable basis, and it has been criticized by Schuster (1988). It shows the following percent in each income group that visited art museums:

Income	*Go*	*Do Not Go*
$15,000 or less	39	61
$15,001–$25,000	57	43
$25,001–$35,000	59	41
$35,001–$50,000	61	39
$50,001 and over	73	27

museums are only part of their impact. They also calculate the distributional pattern of various sources of income to museums such as admission fees, donations, and government subsidies. Admission fees are paid by those in relatively high income brackets, donations are received from those in even higher income brackets, and the deduction for gifts is "paid for" by taxpayers who also lie predominantly in the upper brackets of the progressive personal income tax. On balance, the arts are mildly redistributive in the sense that those who finance them have income slightly higher than those who benefit.

8.2.4 Empirical Evidence on Willingness to Pay

Very little empirical evidence is available on the size of any external benefits. One exception is a study in Australia by Throsby and Withers (1983).[5] Their survey results "indicate an overall acceptance of public benefit accruing from the arts, with only a small minority expressing the attitude that they believe there are net cost and that arts education and general support are unjustified" (183). They find that "a mean willingness-to-pay over the whole sample lying between $97 and $155 is indicated. This range is far in excess of the current average level of expenditure out of taxes on the arts in Australia, which is in the region of $6 per head" (185). The authors provide no source for this $6 figure, but it appears to include only direct government expenditures. Additional, implicit subsidies are provided through the exemption of nonprofit institutions and the deductions for charitable gifts.

A less scientific survey has been conducted in the United States by Louis Harris and Associates (1988), and part of the results are summarized in Table 8.2. The question posed to respondents is misleading in the way it points out the huge cost of major federal programs such as national defense and education, compared to "no more than 75 cents per capita for the arts." It ignores the larger state and local expenditures on the arts (see Clotfelter, this volume), and the still larger indirect federal subsidies provided through the tax system. Nonetheless, the survey shows a majority of 56 percent willing to pay $25 more in taxes each year for the arts, and a larger majority of 70 percent willing to pay an extra $10. More reliable than the levels might be the trends over time, where each of these figures have been increasing steadily since 1975.

8.3 The Deduction for Charitable Giving

In our eminently democratic system, the right to vote is not the only voice we have in government decisions about the allocation of scarce public resources. When individuals or corporations decide to give to art museums in the United States, they effectively direct the allocation of tax expenditure dol-

5. They deal with the problem that survey respondents have incentive to overstate or understate their willingness to pay, depending on whether they believe that their taxes would actually depend on their answers. The questions are asked two different ways, and the truth is assumed to lie between the two alternatives.

Table 8.2 Willingness to Pay Extra Tax for Arts and Culture

Question: The federal government now pays out over $900 per capita for defense, $140 for education, and no more than 75 cents per capita for the arts. Would you be willing to pay $25 ($15, $10, $5) more in taxes per year for the arts, or would you not be willing to do that?

	1987	1984	1980	1975
$25 More				
Willing	56%	53%	51%	41%
Not willing	42	45	45	53
Not sure	3	2	4	6
$15 More				
Willing	62	61	59	46
Not willing	36	38	39	50
Not sure	2	1	2	4
$10 More				
Willing	70	66	65	51
Not willing	28	32	33	44
Not sure	2	2	2	5
$5 More				
Willing	75	72	70	58
Not willing	23	26	28	37
Not sure	2	2	2	5

Source: Louis Harris and Associates (1988, 105).

lars as well. The next section (8.3.1) reviews practices in several other countries and reveals that tax rules are characterized by considerable diversity. Many nations do not allow a deduction for charitable giving, and no other nation allows both a deduction for the market value of the gift and forgiveness of capital gains tax. The following subsection reviews past practices and reveals that even the United States did not always allow a deduction for charitable giving. In addition, with the deduction, changes in marginal tax rates have resulted in considerable changes over time in the net price of giving or amount of the subsidy. The section also looks at Internal Revenue Service efforts to ensure compliance, and recent changes in the alternative minimum tax. Finally, it simulates the effects of rate changes in the Tax Reform Act of 1986.

8.3.1 Rules in Other Countries

Tax systems vary widely, even among the 23 developed Western nations of the Organization for Economic Co-operation and Development (OECD). Table 8.3 summarizes some of the rules about deductibility from the individual income tax at the national level, but it ignores other special treatments of art museums that might exist under a subnational level income tax, a corporation income tax, a wealth tax, a capital transfer tax, or a value-added tax. Thus, this table should not be used to calculate the final tax price of giving in

each country. It is only intended here to indicate the diversity of rules just among the national level individual income tax systems.

A large number of these countries allow no deduction at all for charitable donations. Several other countries allow deductions only under extremely restrictive conditions. Some allow deductions only for cash and not for the market value of any gifts of property, so that donors have no deduction for giving paintings to art museums. Denmark and New Zealand have very low upper limits that would not support large gifts of art. Luxembourg allows deductions for gifts only to state and municipal museums and not for gifts to any private museums. Ireland specifies a list of qualified beneficiaries that is extremely limited and apparently excludes any art institutions (Schuster 1986, 324).

Ireland and the United Kingdom provide a tax incentive or "covenant" that operates much like a tax deduction in some cases, as described further by Rosemary Clarke (chap. 10 in this volume). In Britain, the pay-as-you-earn (PAYE) system means that the taxpayer only receives net income, upon which tax has already been paid. In order for the charity to receive the tax that was

Table 8.3 The Deductibility of Donations in OECD Countries

Nation	Deduction
Australia	Gift of $A2 or more to specified charities
Austria	None
Belgium	Cash, BF1000 or more, to 5% of income or BF10 million
Canada	Up to 20% of net income
Denmark	Over DKr300, up to DKr1000
Finland	None
France	Up to 1% of net income (causes of general interest) or 3% (charitable foundations)
Germany	Up to 5% or 10% of net income
Greece	Up to 50% of net income
Ireland	None
Italy	None
Japan	Excess of ¥10000, up to 25% of income
Luxembourg	None
Netherlands	Excess of 1% of income or Gld120, whichever is more
New Zealand	None (credit up to NZ$200)
Norway	None
Portugal	Up to a ceiling
Spain	None
Sweden	None
Switzerland	None
Turkey	None
United Kingdom	Cash up to £240
United States	For itemizers, cash up to 50% of income or property up to 30% of income

Sources: Organization for Economic Cooperation and Development (1986); Price Waterhouse (1988); and Schuster (1986).

paid on a gift out of net income, the taxpayer must enter into a formal agreement or covenant to give certain amounts over a minimum number of years, recently reduced to four. Then the individual's gift is matched by a check from the government directly to the charity. Until 1980, the government would only match gifts at the low basic rate of tax, so that gifts from high-bracket taxpayers were "subsidized" at the same rate as those from low-bracket taxpayers. The subsidy under this system is less flexible than the straight deduction, and it does not accommodate gifts of property. Also, Schuster (1986) notes that the donor can put restrictions only on his or her portion of the gift, not on the government's share. In the United States, the donor can specify the use of the funds for the entire gift, including the government's implicit portion of support.

Also, in Britain, artwork may receive a conditional exemption from capital transfer taxes due upon gift or bequest if the recipient agrees to show it publicly. Upon sale, the government is able to use certain tax advantages in bidding for it. Some works of art may be accepted as payment in lieu of tax. In the French *dation* system, heirs may pay estate taxes with artwork or other objects and thus avoid finding buyers and paying commissions. For the eleven countries on this list that have a personal wealth tax, art is fully exempt in Denmark, France, and Sweden; fully taxable in Finland, Norway, and Switzerland; and given intermediate rules in Austria, Germany, Luxembourg, Netherlands, and Spain (OECD 1988, 55; Cummings and Katz 1987). These wealth and transfer taxes are not reviewed here, but U.S. estate and gift taxes are described in a later section (8.4.4).

8.3.2 A Brief History of Deductions in the United States

For most of the time since our nation was founded, there has been no income tax and therefore no indirect subsidy for charitable gifts. During the experience that lasted from 1861 to 1872, income-tax revenue reached 28 percent of total federal revenue (Ratner 1980, 142), but no deduction was allowed for charitable giving even though Congress thought enough about fairness to establish progressive rates, a deduction for other taxes paid, and an allowance for housing. That tax was repealed, and other attempts at income taxation were held unconstitutional, before the Sixteenth Amendment allowed the enactment of a new income tax in 1913. That tax allowed deductions for business expenses, interest paid, taxes paid, casualty losses, bad debts, depreciation, corporate dividends received, and income on which tax was paid at the source, but there was no deduction for charitable giving.

The deduction for charitable contributions was enacted in 1917, and it was limited to 15 percent of taxable income. At the same time, personal marginal rates began to reach significant percentages for a small fraction of taxpayers. Table 8.4 summarizes the historical development of the top personal marginal tax rate, the relevant rate for calculating the after-tax price of giving for the most wealthy art donor. This top rate jumped from 15 to 67 percent during the

Table 8.4 **The Top Federal Personal Income Tax Rate in the United States**

Years	Top Rate (%)
1913–15	7
1916	15
1917	67
1918	77
1919–21	73
1922–23	58
1925–31	25
1932–35	63
1936–39	79
1941	81
1942–43	88
1944–45	94
1946–51	91
1952–53	92
1954–63	91
1964	77
1965–80	70
1981–86	50
1987	38
1988–	33

Note: See the Tax Foundation, *Facts and Figures on Government Finance,* for footnotes describing some surcharges and other special rules.

First World War, but the 67-percent rate only applied to incomes over $1 million in 1917. The great majority of donors still received no incentive, or at most 15 percent, for charitable giving.[6] The top rate fell back to 25 percent for a period, and rose to around 90 percent for the Second World War. It is not clear how much revenue was actually collected at such high marginal rates, and recent rethinking in the United States has led to successive marginal rate reductions. The top rate fell to 70 percent in 1964, to 50 percent in 1981, and to 33 percent in 1988, even though the revenue from the personal income tax has been rising with the economy and has remained roughly constant as a fraction of total federal revenue.

As a simplification measure for those who would no longer have to record every itemized deduction, a standard deduction was introduced in 1944. It was originally 10 percent of adjusted gross income (AGI) up to some maximum, but it later became a flat amount and was incorporated into a zero-rate bracket. The incentive for charitable donations was thus removed for tax returns taking the standard deduction, initially 83 percent of the total (Clotfelter 1985a, 26). As inflation and real growth decreased the relative value of this

6. The 1917 law "levied no tax on net incomes below $37,700 in 1982 dollars and applied tax rates as high as 15 percent only for net incomes above $300,000, in 1982 dollars" (Clotfelter 1985a, 31).

standard deduction, until it was raised in 1971, the percentage of taxpayers taking the standard deduction fell from 83 to 52. Also, the limit on charitable deductions for itemizers was changed to 20 percent of AGI in 1952, to 30 percent of AGI in 1954, and to the current 50 percent of AGI in 1969 (20 percent for private foundations). Still, however, gifts of property cannot exceed 30 percent of AGI.[7]

These percentage-of-AGI limits are exceeded for only 0.2 percent of all itemized tax returns, but for 5.5 percent of returns in the topmost income group (Clotfelter 1985a, 27). Thus, even for those with hundreds of thousands of dollars of income, there is no immediate deduction for most of the gift of a $1 million painting. The percentage of contributions in property rises from less than 10 percent, at low incomes, to 60 percent for those above $1 million per year.

Over time, donors and their recipients learned how to take advantage of legal tax possibilities, whether those possibilities had been intended by Congress or not. Two examples of perceived abuse were corrected in the Tax Reform Act of 1969. First, in an arrangement that came to be known as a "bargain sale," the taxpayer could sell a piece of appreciated property to the museum at original basis, take a charitable deduction for the excess of market value over basis, and avoid tax on the entire capital gain. Consider a $10,000 painting sold for an original $5,000 cost. With a marginal tax rate of 70 percent, and an exclusion for half of capital gains, the $5,000 deduction would save $3,500 of regular tax plus $1,750 of capital gains tax. The $5,250 tax savings was greater than the $5,000 gift, so the after-tax price of giving was negative relative to an immediate sale. Thus, the individual could sell the art at market value for $10,000, or he or she could sell it to an art museum and receive a total of $10,250 (plus a plaque expressing gratitude for such generosity). It is not clear how much art arrived at museums in this way, and the perception of abuse may have derived from bargain sales to other charities of income-producing property such as rental real estate. In any case, the 1969 act requires the taxpayer to allocate the capital gain between the sale price and the gift (rather than assign all of the gain to the gift).

Second, prior to 1969, the gift of an artist's own work could be deducted at market value. Though perhaps not apparent at first, the artist then received twice the tax benefit of someone else giving the same piece of art. The reason is that the artist had not yet been taxed on the income from the unsold piece of work. Suppose, for example that an artist had two pieces of art, each worth $10,000, and that one was sold while the other was given to a museum. The deduction on the gift then offset the income from the sale, so the artist paid no tax on $20,000 worth of effort. In contrast, if a plumber donated an amount

7. For a deduction at full market value, property must be "related" to the purpose of the donee organization (such as art to an art museum). Contributions above either percentage limit may be carried forward for five years. Gifts may also be "partial" interests. See Commerce Clearing House (1988), Arthur Andersen (1987), and U.S. Congress (1969).

of effort worth $10,000, there would be no tax on any income from those plumbing services but no deduction against other income either.

The Tax Reform Act of 1969 changed these perceived loopholes and made other significant changes to the taxation of exempt organizations and charitable contributions. It eliminated the extreme form of the bargain sale, and it put artists on the same footing as other donors by reducing their deduction by the value of their effort, the excess of market value over the cost of materials. It increased the fraction of AGI that can be offset by charitable deductions, from 30 to 50 percent (except for private foundations and for appreciated property). It introduced a 4-percent "excise tax" on the interest and dividend income of private foundations, later changed to 2 percent and then 1 percent.[8] The act also changed some other specific rules for tax-exempt organizations. Finally, the 1969 act introduced the first minimum tax. This provision was intended to prevent high-income individuals from using various tax benefits to the point of paying almost no tax. The original minimum tax did not include any of the benefits to charitable giving, but the concept has expanded in ways to be discussed shortly.

Congress has always felt a certain tension between the desired simplicity of the standard deduction and the desired incentive of the charitable deduction. The Economic Recovery Tax Act of 1981 introduced the first charitable deductions for nonitemizers, but with initial low percentages, ceilings, and expiration after 1986.[9] With a full deduction, the nonitemizer's price of giving $1 falls from 1.0 to $(1-t)$, where t is the marginal tax rate. The years from 1982 to 1986 were intended as a trial period, and the provision was not subsequently renewed.

At the same time, the 1981 act significantly reduced the top marginal tax rate, from 70 to 50 percent. The after-tax price of giving $1 in cash thus rises from 30 to 50 cents for the highest income group. Data from surveys and the IRS indicate that low-income groups (with the greatest relative number of nonitemizers) give proportionately more to religious organizations, while high-income groups give proportionately more to cultural institutions. The act therefore contained a twist or combination of provisions that served to encourage giving to some charities, such as religious organizations, and discourage giving to other charities, such as art museums.

Finally, the Tax Reform Act of 1986 reduced personal marginal tax rates again (and it allowed the nonitemizers' deduction to expire). The personal exemption was increased significantly, so many low-income individuals fell from positive to zero marginal tax rates. Multiple rates were collapsed to just two brackets of 15 and 28 percent, but the benefits of the personal exemptions

8. This provision does not affect most art museums directly, but it may affect the income available for private foundations to give to art.

9. For 1982 and 1983, nonitemizers could deduct 25 percent of the first $100 of charitable donations, for a maximum deduction of $25. They could deduct 25 percent of the first $300 in 1984, 50 percent of all donations in 1985, and 100 percent of all donations in 1986.

are phased out by a 5 percent surcharge over a specified range of income. In other words, the marginal rate increases from 28 to 33 percent and then falls back to 28 percent at the highest income levels.[10] The 1986 act also broadened the tax base in several ways, including the full taxation of nominal realized capital gains.

8.3.3 The Individual Alternative Minimum Tax

Congress has always felt another inherent tension between the desire for incentives and the desire for actual and perceived fairness:

> Although these provisions may provide incentives for worthy goals, they become counterproductive when taxpayers are allowed to use them to avoid virtually all tax liability. The ability of high income taxpayers to pay little or no tax undermines respect for the entire tax system and, thus, for the incentive provisions themselves. (U.S. Congress, Joint Committee on Taxation 1986)

The Tax Reform Act of 1986 extended the list of preference items under the alternative minimum tax (AMT) to include the appreciated portion of donated property deducted under the regular tax. No individual could use this deduction to avoid all tax liability, in any case, because deductions for gifts of property are limited to 30 percent of AGI. Nonetheless, Congress effectively felt that some individuals were using the deduction to pay less than they should. The act retains the full deduction for cash and for the original basis of property given to charities, but it eliminates for some taxpayers the extra incentive provided by the forgiveness of capital gains tax. This single provision, perhaps because it is newly enacted, currently occupies the most prominent point of discussion about income tax policy toward art museums. As reported on the front page of the *New York Times,* 7 May 1989, a study by the American Association of Museums found that the value of objects donated in 1987 was 33 percent less than in 1986. Also, a study by the Association of Art Museum Directors that focused on art museums alone found that "the value of donations declined by $161 million, or 63 percent, from 1986 to 1988 for the 116 institutions reporting." The article includes statements about particular paintings that were not donated because of the 1986 act, and it goes on to discuss efforts in Congress to amend this provision.[11]

Several problems with these statistics are relevant to an overall evaluation of the minimum tax provision for appreciated property. First, these figures for donations are affected by other changes, such as the significant rate reduction embodied in the 1986 act. For our example of property worth $10,000 that

10. Other phase-outs, such as the $25,000 passive loss allowance, can make the marginal tax rate higher than 33 percent for certain taxpayers.

11. At the time of this writing, in October 1989, the Senate Finance Committee has just approved an amendment by Senator John Chafee (R, RI) to repeal the inclusion of appreciated property in the AMT.

cost $8,000, tax savings under the regular tax were formerly $5,400 ($5,000 from the deduction at a 50-percent marginal tax rate, plus $400 from the forgiveness of capital gains tax at a 20 percent rate) and fall to $3,360 ($2,800 from the deduction at the 28-percent rate and $560 of capital gains tax at the 28 percent rate). The price of giving thus rises from .460 to .664, even without the minimum tax provision.

Second, appreciated property is only part of the picture. Figures in *Giving USA* (1989) show increases every year in total donations to "arts, culture, and the humanities," as follows:

1984	$4.50 billion	6.9% increase
1985	5.08	12.9
1986	5.83	14.8
1987	6.13	8.2
1988	6.82	8.1

Third, these figures might represent changes in the timing of gifts of appreciated property and therefore might not represent a change in the amount of such gifts. Proposals to place donations of appreciated property under the minimum tax were included in the discussions of tax reform during 1985 and early 1986, so donors could easily anticipate the loss of certain tax benefits after 1986. Any future planned donations were therefore more certain to receive the double incentive if made before the effective date in the legislation. Indeed, the study by the American Association of Museums reports that donations increased dramatically from 1985 to 1986, and that both the number and the value of works contributed in 1987 still represent modest increases over 1985. In some respects this showing is surprisingly strong, since we might expect that donations moved up to 1986 would more greatly reduce those remaining in 1987 and 1988. Furthermore, donations might be low while current debate considers further changes. With uncertainty about future legislation, potential donors might be induced to wait for more favorable tax benefits. In any case, it is too early to tell whether long-run gifts of art are affected by the inclusion of appreciation in the minimum tax.

Finally, in light of the stated purpose of the provision, it would be useful to know how many high-income individuals would otherwise have had low effective tax rates. To some, the greater equity is worth the loss of incentive. Even with the broader tax base of the minimum tax, the AMT rate is only 21 percent.[12] Unused deductions can still be carried forward and used against future tax liability for up to five years. And even if the excess is never used, the remaining subsidy is still the same as in other countries that tax the capital gain before allowing a deduction for the value of the gift.

12. In this case, the cost of a $1 gift is 79 cents. Also, depending upon the taxpayer's mix of "exclusion" preferences and "deferral" preferences, an AMT credit may be available that can reduce the net cost of the gift in later years by a reduction of regular tax.

8.3.4 Enforcement, Compliance, and the Art Advisory Panel

Recently, Congress also became concerned about abuses by taxpayers who overvalue donations of property or otherwise overstate deductions. Data from the Taxpayer Compliance Measurement Program (TCMP) for 1982 indicate that 20 percent of donors overstate their deductions of all kinds (and 7 percent understate deductions). Donors of all sorts of property make one-third fewer errors, but the size of errors is one-third larger (U.S. Congress, Hearings, 1986). No statistics indicate the proportion of noncash gifts comprising art. However, tax shelter promoters made arrangements for taxpayers to "acquire objects such as limited edition lithographs, books, gems, and the like, hold the property for at least the capital gains holding period, and then contribute the items to a museum, library, educational institution, or other qualified donee at their 'appreciated' fair market value" (U.S. Congress 1984, 503). Moderate penalties were imposed if the overvaluation were discovered, but enforcement was generally viewed as difficult. Accordingly, the Deficit Reduction Act of 1984 instituted a requirement that a qualified, unrelated appraisal be undertaken before any deduction is claimed for property worth $5,000 or more. The appraiser can be subject to civil tax penalties for aiding and abetting an understatement of tax liability. Also, any donee that disposes of the property within two years must report what was received for it. Finally, penalties for overvaluation were increased.

For works valued at more than $20,000, the IRS generally considers whether to seek review from an official Art Advisory Panel, made up of 25 members including art dealers, museum directors, curators, and art scholars. This panel was established in 1968, and members volunteer their services without pay. The total operating budget for travel and other expenses is about $15,000 per year, and yet from 1977 to 1985, the panel reviewed 1565 cases involving 6717 items. It recommended adjustments for half of these items, by $115 million or 22 percent of the total $525 million claimed (U.S. Congress, Hearings 1986). These adjustments seem to have increased since 1984, to 73.5 percent of items and 36 percent of the value claimed.

Moreover, the IRS seems willing to establish special-purpose panels that last only a finite period. In response to a flood of cases related to a particular shelter scheme, the IRS in 1982 established an Art Print Advisory Panel that, through 1985, reviewed 1650 items upon which $219 million of deductions were claimed. In these cases it recommended adjustments of $216 million, a full 98.6 percent reduction from the amounts claimed (Anthoine 1987).

This combination of provisions would seem virtually to eliminate any possibility for abuse, but several minor advantages remain. First, note that the donor is still able to claim a deduction for the fair market value of the property, even though a sale would probably only provide the fair market value less a significant commission. Second, nothing in these provisions would seem to prevent the donor of a particularly valuable piece from obtaining several dif-

ferent qualified, unrelated appraisals. Even valid professional estimates are bound to vary to some degree, and the donor could pick the highest value for use as the deduction. Finally, note that the issue of appraisal would not even arise if the deduction were limited, as in other countries, to cash or to the original basis of appreciated property. Alternatively, if full capital gains tax were collected on the appreciated portion of the property before the gift were deducted, then any overstatement of value would increase the taxable capital gain by as much as it increased the deduction. In other words, even with correct valuation, the taxpayer under the regular tax still gets the double incentive of the deduction against ordinary income plus the forgiveness of capital gains tax.

8.3.5 The Effect of Incentives on the Amount of Giving

Many studies have attempted to measure the various determinants of charitable contributions, including the donor's income level, tax incentives, and other demographic characteristics. An important parameter for policy purposes is the "price elasticity," defined as the percentage change in giving for a 1 percent change in the after-tax price of giving. Similarly, the "income elasticity" is the relative change in giving for a 1 percent addition to income. Some of the equations and assumptions used to estimate these parameters are described in appendix A.

Some studies use data on the total amount of charitable giving each year, aggregate income, and an overall price (1 minus a weighted average of personal marginal tax rates). This aggregate time-series analysis relies mostly on statutory changes in marginal tax rates to measure the response in giving. Alternatively, some studies use one year's survey or tax return data for different households. This cross-section approach relies on differences in marginal tax rates and differences in giving, while trying to control for differences in level of income and other characteristics.

Researchers have been concerned not just with the size of the estimated price elasticity, but whether it is greater than 1. This value represents a critical benchmark in the sense that it determines whether the extra giving generated by the tax incentive is greater than the government's revenue cost. If the elasticity is less than 1, when a new tax incentive reduces the after-tax price of giving, then the proportional increase in giving is less than the proportional decrease in price. In this case, the individual's out-of-pocket cost actually falls. Since the individual's outlay falls while the gift rises, government must be making up the difference. The tax incentive is "ineffective" in the sense that the donee would receive more if the government just delivered their contribution directly without causing the individual's outlay to fall.[13]

13. Feldstein (1980) points out that individuals may respond to direct government support by donating less themselves. In this case, the critical elasticity is zero, and a percentage subsidy always works better than direct grants.

Early research tended to find elasticities less than 1 (Vickery 1975, 157), but more recent work has found larger responses. Martin Feldstein (1975a) employed a time-series of IRS statistics on itemizers in 17 AGI groups. He used several sets of assumptions, but his basic specification resulted in a price elasticity of 1.24. To include nonitemizers and data on wealth, Feldstein and Clotfelter (1976) used a national survey of 1,406 households that was conducted by the Federal Reserve in 1963–64. The basic estimate for the price elasticity was 1.15 in this case. Also, Feldstein and Taylor (1976) used individual returns from the Treasury Department tax files. The estimated price elasticity was 1.09 using 1962 returns, and it was 1.20 using 1970 returns. The time-series and cross-section approaches were then combined when Clotfelter (1980) was able to employ the Treasury's panel study of low- and middle-income taxpayers that were followed for several years. These data allowed exact measurement of marginal tax rates that reflect income averaging and optional forms of deductions. It resulted in an estimate of 1.40 for the long-run price elasticity.

These price elasticity estimates are all close to each other, especially considering the substantial differences in the nature of the data and the level of aggregation. More recent research concludes that the price elasticity of charitable giving is greater than 1, though perhaps not much greater than 1. This implies that donees receive more than the government loses in tax revenue.

An important caveat, however, is that each of these estimates refers to an aggregate elasticity. They implicitly assume that all individuals follow the same behavioral rule for all kinds of giving. In fact, even if the elasticity is constant for a given individual or group, we would not necessarily expect it to be constant across individuals or groups. Also, the estimation lumps together different commodities. A given consumer's needs or wants may not be the same for gifts to different organizations. Such differences might be important for the study of art museums, because of special features of those gifts. Art museums receive donations predominantly from high-income taxpayers who itemize deductions and who might have a sensitivity to price that is different from the average. They also receive a high proportion of gifts in the form of property, gifts that might have a responsiveness different from other donations.

Several studies have attempted to measure variations in price elasticities for different income levels or donee organizations, as reviewed in Clotfelter (1985a, 63–71). The results allow no clear conclusions, largely because of limitations in the data. On the one hand, tax return data allow the calculation of an accurate after-tax price of giving for each household, but they do not include wealth variables, nonitemizers, or donee organizations. On the other hand, survey data (such as the National Study of Philanthropy or the Consumer Expenditure Survey) include more detail on gifts, but they have fewer high-income households and less information on taxes.

Nevertheless, it is useful to look in more detail at some of the disaggregate

results. In the first effort to distinguish types of giving, Feldstein (1975b) estimated elasticities for five different types of charitable organizations. He used 1962 IRS data on each type of giving in each AGI class. He found that the price elasticity ranges from 0.49 for religious organizations to 2.63 for other donees.[14]

	Elasticity with respect to:	
Type of Donee	*Price*	*Income*
Religious organizations	0.49	0.63
Educational institutions	2.23	1.22
Hospitals	2.44	1.08
Health and welfare	1.19	0.85
All others	2.63	0.65

Unfortunately, the data do not identify art or even culture as a separate category. Instead, museums are aggregated with other diverse organizations in the "all other" category. Art museums are probably more similar to educational institutions than to other organizations with which they are aggregated, but the estimated price elasticity is more than 2.0 in either case.

In a different breakdown, Clotfelter and Steuerle (1981) estimate elasticities separately for five income groups using the Treasury's 1975 tax file and the seven-year panel study of individual taxpayers. They include only itemizers (for whom charitable giving is recorded in the tax return data). The basic set of estimated elasticities are as follows:[15]

	Elasticity with respect to:	
Income (1975 dollar)	*Price*	*Income*
$ 4,000–10,000	0.423	0.552
10,000–20,000	0.732	0.578
20,000–50,000	0.972	0.646
50,000–100,000	1.253	0.827
100,000 and over	1.506	0.908

These results are consistent with those above for donee organizations, in that the more responsive, high-income groups give proportionately more to educational institutions (and art museums), while the less responsive, low-income groups give proportionately more to religious organizations.

No study reports elasticities separately for gifts of cash and gifts of property. The best available information is from Slemrod (1988), a study that is

14. However, Dye (1978) and Reece (1979) find that the price elasticity for religious giving is *higher* than for other categories. These studies use individual survey data, with less good tax information, while Feldstein uses aggregate IRS data for 17 income classes, with few observations.

15. In contrast, Feldstein (1975a) and Feldstein and Taylor (1976) included specifications for which the estimated price elasticity *falls* with income. For low-income groups, less variation in the price of giving makes it difficult to estimate accurately the price elasticity.

intended to investigate whether the previous estimated price elasticities are biased by misreporting of taxpayers who respond to higher tax rates by overstating their deductions, rather than actually increasing their donations. Slemrod uses IRS data from intensive audits conducted by the Taxpayer Compliance Measurement Program (TCMP) that include the donations reported by the taxpayer as well as the amount deemed by the auditor to be the correct amount of deduction. He estimates elasticities using both the reported and the corrected deductions and finds that the estimated price elasticity only changes from 2.04 to 2.34, and income elasticity from 0.35 to 0.27.

The important aspect of these data for our purpose is that they separate cash gifts from property. The paper by Slemrod does not report specific results for the two types of gifts, but says:[16]

> The results for cash contributions, which accounted for 87% of the value of all contributions by itemizers in 1982, are quite similar to the aggregated results—price elasticities in excess of two, which rise slightly when reported contributions are replaced by auditor-adjusted contributions. For non-cash contributions, the estimated price elasticity is approximately . . . one and the estimated income elasticity is approximately 0.1. Neither of these estimated coefficients changes much when auditor-adjusted contributions are substituted for reported contributions. (1988, 16)

The lower price elasticity for gifts of property may seem surprising, especially in light of the higher price elasticity for high-income donors shown above. However, much of this property may be secondhand clothes for resale shops or charities, rather than art for museums.

Finally, note that income elasticities are less than 1.0 in most of the results reported above. An implication is that a simple reduction of taxes that puts more after-tax income into the hands of consumers is not an effective way to increase their charitable giving. If the objective is to increase charitable giving, the most effective tax policy would target the price of giving for the most responsive donors.

8.3.6 Rate Reduction and Giving to Art Museums

A major goal of the Tax Reform Act of 1986 was to reduce personal marginal tax rates that took up to 50 percent of any additional income from work effort, savings, or any form of economic activity in the market. Such rates encourage taxpayers to stay home, to work outside the regular market, and even to evade taxes on market income. They interfere with financial debt/equity choices, entrepreneurship, and the balance of investment portfolios.

16. This study is not exempt from data and other problems discussed above that lead to considerable uncertainty about the estimates and some disagreements about their size. Additional problems led Slemrod to omit the specific results. In particular, the same weighted average price from appendix equation (3) was used both for cash gifts and for property, instead of using $(1 - t)$ in the regressions for gifts of cash and $(1 - t - a \cdot g)$ in the regressions for gifts of appreciated property.

For many reasons, lower marginal tax rates are expected to increase productive economic activity as well as to have positive feedback effects on tax revenue.

Given these favorable effects, rate reduction is consistent with the benevolent objectives of charitable organizations. Yet given that the incentive for gifts to charities is in the form of a deduction, lower marginal tax rates are also expected to reduce charitable donations. Thus, rather than oppose rate reduction, charities might favor maintaining the subsidy at prior levels by switching to a credit with the same revenue cost as the prior deduction.[17]

In any case, previously estimated price elasticities can be used to "predict" the effects of the 1986 rate reduction.[18] The tax reform is not expected to have any major effects through income elasticities, since it was approximately revenue neutral and distributionally neutral.[19] Data from the Treasury Department on the average change in the marginal tax rate in each income group is shown in columns 2 and 3 of table 8.5. The tax reform dropped many poor families off the tax rolls and thus lowered the average of the marginal rates in the lowest income group from 2.7 to 2.0 percent. It raised the lowest bracket from 11 to 15 percent, however, so the next group actually experienced a slight increase in their average marginal rate. All other groups benefited from substantial rate reduction, especially the top income group where the marginal rate fell from an average of 45.5 to 28.9 percent. Notice that the penultimate group is left with a 32.2-percent rate, on average, because many of these taxpayers are in the 33-percent bracket that precedes the final 28 percent bracket.

Columns 4 and 5 then employ appendix equation (3) to calculate the price of giving, using IRS data on the fraction given in cash vs. property, and assuming that all groups give property with value that is half appreciation.[20] The price of giving changes very little in the lower brackets that tend to give little or nothing to arts and culture, but it rises from .52 to .67 in the top income group that gives most to this category. The top income group gives proportionately more in the form of property, and the Tax Reform Act raises the capital

17. If all taxpayers were allowed the same rate of credit, a remaining problem would be that the subsidy would rise for low-bracket donors and fall for high-bracket donors, those who give relatively more to art museums.

18. These calculations do not predict actual giving for some future year, because they do not include income and demographic variables that would also affect actual future gifts. Instead, they isolate the effects of the price change, as if there were no other changes. They ignore the AMT. Tax rate changes in the 1986 act will be shown to reduce gifts, but higher subsequent income levels will raise actual subsequent gifts.

19. The Tax Reform Act shifted $120 billion of tax over five years from individuals to corporations, but the corporate taxes are implicitly paid through higher prices, lower wages, or reduced dividends. I assume that individuals feel no richer by shifting tax to corporations. No change in real income implies no effect through income elasticities.

20. Clotfelter (1985b) discusses the possibility that taxpayers in higher brackets have assets with higher gain-to-value ratios, and choose those with the greatest gains to give to charity. On the other hand, these assets are less likely to be sold for consumption and more likely to be held until death to avoid capital gains tax. "The two factors thus tend to offset one another, to what degree it is impossible to say" (p. 207).

Table 8.5 **Predicted Change for Individual Giving to Arts and Culture**

AGI Group (1)	Marginal Tax Rate %		Price of Giving		Price Elasticity (6)	Gifts to Art and Culture ($ millions)		% Change Gifts (9)
	Old Law (2)	TRA (3)	Old Law (4)	TRA (5)		Old Law (7)	TRA (8)	
0–10K	2.7	2.0	.97	.98	−0.47	.0	.0	.0
10–20K	15.7	15.9	.84	.83	0.32	.0	.0	.0
20–30K	20.9	17.9	.79	.81	0.56	.0	.0	.0
30–50K	26.4	21.5	.73	.78	0.75	.0	.0	.0
50–75K	32.8	27.8	.66	.70	0.90	173.2	164.2	−5.2
75–100K	38.3	29.1	.61	.69	1.04	113.3	99.3	−12.4
100–200K	41.9	32.2	.57	.65	1.17	181.8	154.7	−14.9
200K +	45.5	28.9	.52	.67	1.71	573.0	370.8	−35.3
Total						1041.3	789.0	−24.2

Notes and Sources (by column): (1) AGI = adjusted gross income, in K = thousands of dollars; (2) and (3) weighted average in each group, from U.S. Treasury Dept. TRA = Tax Reform Act; (4) and (5) calculated from appendix equation (3) using column 4 of table 8.1 for $(1 - C)$, $a = .5$ for the ratio of appreciation to value, and assuming that the alternative is immediate consumption. The old law uses column 2 for t, and $g = .4t$. TRA uses column 3 for t and g; (6) calculated from prices in column 4, the average income in each group, and coefficients in Clotfelter and Steuerle (1981). The appropriate income measure is AGI "minus the tax liability that would have been due if no contributions had been made" (Clotfelter and Steuerle, 424), calculated using Treasury data on average AGI and tax liability in each group, SOI data on gifts, and column 4 prices; (7) calculated from total gifts in SOI for 1985, and proportions given to culture in Clotfelter (1985b); and (8) calculated from appendix equation (4) using columns 4 through 7.

gains rate from a maximum of 20 to 33 percent. Column 6 then shows the price response derived from the variable elasticity formula of Clotfelter and Steuerle (1981) using IRS data on 1985 incomes and column 4 data on prices.[21] The price elasticity ranges from very low values in the lowest income group to 1.7 in the highest income group. Finally, column 7 uses data from the IRS on the 1985 level of gifts from each group, and from Clotfelter (1985b) on the allocation of gifts in each group.

With these figures, appendix equation (4) generates the new hypothetical amount of giving in each group shown in column 8, and the percentage change shown in column 9. The top income group has the largest elasticity, the largest increase in price of giving, *and* the largest amount of giving to the arts. As a consequence, their gifts fall by 35 percent, and the total for all groups falls by 24 percent.[22]

8.4 Other Taxes Affecting Art Museums

As nonprofit organizations, art museums do not pay corporate or personal income tax. No tax is paid on receipts from donations, membership dues, admission fees, or income to the endowment. Moreover, in some special cases, art museums can issue tax-exempt bonds to finance capital projects at an interest rate that is lower than the market rate for taxable debt. To serve their visitors on the premises, art museums can operate, and pay no tax on income from, a parking lot, a restaurant, and a gift shop.

Several tax provisions affect some art museums directly, however. If it is organized as a private operating foundation, for example, the art museum might pay a 1 or 2 percent excise tax on income of the endowment.[23] If it operates a business that is not related to its charitable purpose—such as a

21. Since the estimating equation is more complicated than appendix equation (2), Clotfelter (1985a, 69–70) shows that the price elasticity is calculated by $4.31 - 0.54[\ln(Y)] - 0.50[\ln(P)]$.

22. The nonitemizers' deduction was previously set to expire after 1986, so the Tax Reform Act had no effect on their price of giving. Calculations here pertain only to itemizers, but gifts of nonitemizers are highly concentrated in low-income brackets that give little or nothing to arts and culture. Including gifts to the arts of the few nonitemizers in high-income groups, the total change is 24.1 rather than 24.2 percent.

23. Loosely speaking, every nonprofit organization is a private foundation unless it qualifies as a public charity by being an educational, religious, cultural, scientific, or social-welfare organization with a high fraction of funding from gifts or from charging for related services. "This requirement is designed to insure that the organization is responsive to the general public" (U.S. Congress 1969). Thus an art museum can qualify as a charity by receiving enough gifts or by charging fees for admission. A museum that operates on the basis of a large endowment, rather than ongoing gifts or admission fees, might have to pay the excise tax. In general, private foundations are also subject to a lower (20 percent) limit on AGI that can be deducted by donors, and to other operating restrictions designed to prevent undue accumulations of wealth and private gain (self-dealing rules, payout requirements, excess business holding limitations, and restrictions on the nature of grants). However, a private "operating" foundation can qualify for the higher limits by using two-thirds of its assets to carry out its programs. Thus, even if the art museum is a private foundation and pays the excise tax, it can receive deductible donations of up to 50 percent of AGI by having most of its assets in art that is open to view. See Fremont-Smith (1965, 1972), and the *1989 U.S. Master Tax Guide* (Commerce Clearing House 1988).

restaurant off the premises or the sales of objects other than prints of its art—the museum must pay the unrelated business income tax (UBIT). In addition, the income tax on other corporations may affect their charitable donations and thereby affect art museums. Each of these tax provisions is discussed in turn.

8.4.1 Income Tax Exemption and the Cost of Capital

Many observers have pointed to various tax exemptions as forms of subsidy that allow "unfair competition" with other small businesses that must pay tax when providing some of the same goods and services. It is said, for example, that a private health fitness center must pay tax while the YMCA can provide the same services without tax and therefore at a lower cost. Wages and salaries are subject to the same payroll and personal income taxes, so the tax exemption must be said to lower the cost of capital rather than of labor. Is there really a cost advantage? The U.S. Treasury (1988) notes that:

> Because the nonprofit organization enjoys a . . . higher rate of return on other uses of its capital, including passive investments, the relative "opportunity cost" of entering a particular business . . . can be equivalent for taxable and exempt organizations. As a result, taxable and exempt businesses may be in the same relative position with respect to the decision whether or not to enter a particular business.

To help evaluate these views, appendix B provides a general framework that measures the cost of capital, defined as the gross-of-tax rate of return that a project must earn to cover taxes and the opportunity cost of the funds. The opportunity cost is the net return that the funds could have earned in some other investment. This cost of capital is shown to be identical for taxable firms and nonprofits, as suggested in the above quote, as long as the tax applies to economic income indexed for inflation. The cost of capital for the taxable firm could be *higher* if depreciation allowances at historical cost are insufficient to cover replacement cost, and it could be *lower* for taxable firms if they are allowed an investment tax credit or accelerated depreciation in excess of economic depreciation at replacement cost. Thus the taxable firm *could* have a cost advantage over nonprofits.

This equivalence result does not depend upon whether the funds for the project are obtained from taxable debt or equity. Whatever the actual source of finance, the project always must cover the return that could be earned by putting the money into taxable bonds. The private firm pays taxes on income from the project, but it has a lower opportunity cost of funds because it can only earn the net-of-tax interest rate on this alternative. The nonprofit pays no taxes, but its project has the higher opportunity cost of covering the full market interest rate that could have been earned instead.[24]

The U.S. Treasury (1988) goes on to say:

24. One potential problem is that the nonprofit does not earn the same rate of return on its holdings of debt and equity. The return on the project should be compared to the next best opportunity, that is, whichever rate of return is higher. For untaxed institutions, the interest rate on

> Nonetheless, when tax exemption is combined with other governmental subsidies—such as the ability of some exempt organizations to issue tax-exempt bonds, access to lower postal rates, exemption from certain federal excise taxes, and exemption from certain state and local taxes—an exempt organization's cost of producing goods and services for sale is further reduced.

Lower postal rates and exemptions from state and local tax are considered by Clotfelter (in this volume), but the issue of tax-exempt bonds fits nicely into the framework developed here.

The cost of capital depends on the alternative rate of return that the investment must cover. If the exempt organization trades off more of the project against having more interest-bearing endowment, then the above analysis holds. If interest-bearing endowment is fixed, however, and the organization is allowed to use tax-exempt debt to finance the project, then the relevant cost is the tax-exempt interest rate. Since that rate is less than the market interest rate, the cost of capital is reduced. Thus a government-connected museum that can issue tax-exempt debt can provide services more cheaply.

The next section makes use of this analysis to consider specific issues of the unrelated business income tax. In particular, the issue is clouded by an inherent contradiction between the desire to subsidize one activity (that may have external benefits) and to treat similarly a competing activity (that may not have external benefits).

8.4.2 The Unrelated Business Income Tax and "Unfair" Competition

Despite the doubts just raised, this section will follow existing literature in assuming that the nonprofit's exempt status does confer a real or perceived cost advantage.[25] One question is whether this cost advantage is justified by external benefits, and another question is whether the cost advantage results in "unfair" competition.

In section 8.2, I discussed how tax advantages may be justified by spillover social benefits and/or the cost structure of museum services. If these benefits are sufficiently large, we might *want* certain nonprofits such as art museums to be subsidized not only through deductions for gifts and exemption of passive investment income, but through exemption of active business income as well. They could then provide more of the desired art.

The Revenue Act of 1950 effectively decided that the deduction for gifts and the exemption of passive investment income were sufficient subsidy. It introduced a separate tax at the corporate rate on the nonprofit's active business income that is not "substantially related" by having a causal relationship that "contributes importantly" to the accomplishment of the organization's exempt purposes, other than the mere need for funds (U.S. Treasury 1988).

---

taxable bonds is usually higher than the return after corporate tax on corporate stock. Thus, even if the funds come from donations, the cost of funds is the interest rate on taxable bonds.

25. See Copeland and Rudney (1986) or Schiff (1988) for examples.

Table 8.6 **Unrelated Business Income and Compliance with UBIT**

	Percent with Unrelated Business Income		UBIT Errors (Millions of Dollars)	
	1973–74	1979–83	1973–74	1979–83
Private foundations	1.2	1.5	0.4	3.7
Public charities	2.8	5.8	16.7	4.0
Civic associations	1.7	7.7	1.4	0.9

Source: Grabowski and Soffer (1988).

These rules have been modified in piecemeal fashion by Congress, Treasury regulations, and the courts. They have come to be viewed as complex and arbitrary, and their scope is still a subject of some debate.

Relatedness is now determined item by item, so separate accounts must be kept even within a single gift shop. The sale of an art print is exempt, but the sale of a T-shirt with the museum logo is not. What about the sale of a T-shirt with art printed on it? The museum is left to decide such details, subject to IRS and court objections, so it has every incentive to make aggressive interpretations.[26]

Moreover, these administrative difficulties lead to problems of enforcement and compliance. The IRS estimated that the voluntary compliance level (VCL) for unrelated business income was only 21.2 percent in 1973, and 46.3 percent in 1983 (U.S. Internal Revenue Service 1988, F-24), but they believe that the increase is due to broader examination coverage rather than to increased compliance. Grabowski and Soffer (1988) provide further results of IRS examinations, as summarized in table 8.6. They show that the UBIT errors of private foundations have increased ninefold between the 1973–74 period and the 1979–83 period. In the public charity category, UBIT errors have declined 76 percent over the same span, even though the percentage of public charities with such income has increased from 2.8 to 5.8.

Total UBIT revenues are less than 0.05 percent of the corporate income tax (Rose-Ackerman 1982), but this figure may not reflect its true revenue impact. Without this provision, much more business activity might be undertaken by exempt organizations instead of corporations, with a loss of corporate revenue. Also, the provision is intended to "regulate" the activities of nonprofit organizations, since, without it, substantial untaxed commercial activity could divert an organization from its primary purpose and make it accountable neither to donors nor to shareholders.

Yet the primary purpose of UBIT is not related to the size of the external benefit, the need for revenue, or the desire to regulate. The provision is intended primarily to address the perceived problem that the exempt organiza-

26. The Boston Museum of Fine Arts recently tried to help advertise their Egyptian exhibit by selling chocolate mummies in the gift shop, but this item was deemed to be subject to UBIT.

tion operating in an unrelated business would have an unfair advantage over other private business in the same activity.

Even with a cost differential, Rose-Ackerman (1982) points out that there may be no ill effect on other private business. First, if the nonprofit represents a small part of the total market for that particular good or service, it will have no effect on the equilibrium price and therefore no effect on other private business. Second, suppose that the nonprofit's activity does affect the price, but that other private firms face no significant fixed costs of entry or exit. In this case, any other firm can shift out of that activity and into a different activity where it can earn the same equilibrium market rate of return it earned before, with no adverse effects. Third, if there do exist costs of entry or exit, other private businesses could reasonably be expected to anticipate competition from nonprofits at the time of their initial commitment to the industry and thus to make only investments that cover the fixed cost and still earn their required rate of return. That is, the fully informed taxable firm would only undertake investments that improve its situation, so the differential rates of return do not inflict any injury. Fourth, even if the nonprofit's competition is unanticipated, the reduced return to the other private businesses might not be unwarranted if the industry is not initially competitive and thus affords an unusually high rate of return.

The only remaining case with a potential problem is where the industry initially is competitive, the nonprofit's entry is unanticipated, the nonprofit's activity is large enough to affect the market price, *and* the other private businesses would incur significant fixed costs of leaving this activity or entering another. For this reason, Rose-Ackerman concludes that UBIT is "exactly the wrong way to respond to the problem" (1982, 1037). It encourages nonprofits to concentrate in activities judged to be related, where they are more likely to affect the equilibrium market price. And since tax rules keep modifying the definition of unrelated activities, UBIT keeps imposing unanticipated windfall gains and losses. "It appears, then, that the tax on unrelated business activity creates more unfairness than it can possibly prevent. It should therefore be repealed" (p. 1038).

Rose-Ackerman provides a very useful analysis, but it does not support her own conclusion. The complete repeal of UBIT would represent the largest possible unanticipated change to existing tax rules in this area. Nonprofit organizations would probably expand in certain familiar activities, rather than enter many diffuse activities, where private firms have invested much fixed capital and are earning only normal competitive rates of return. The repeal of UBIT would thus reduce returns to existing businesses and impose large capital losses.

The analysis is correct that differential rates of return are not unfair so long as private businesses know about the differences before they enter the activity. Any tax change can impose windfall gains and losses, hence the adage "an old tax is a good tax." The implication for tax policy in this case is to minimize

changes by nailing down a workable definition of related activities that does not require constant revision. Any unchanging definition avoids being unfair to private businesses, but administrative and compliance costs can be minimized by a definition that does not require multiple books and arbitrary classifications.

Similarly, a tax on museums' unrelated business is not unfair as long as they know the rules beforehand or can exit without cost. A tax on museums' *related* services might be unfair, since they cannot exit from their primary responsibility. Again, as discussed above, the tax exemption for related activities can be viewed simply as a way to encourage museum services that have important social benefits, and even a tax exemption on unrelated activities could be viewed as another way to enable them to expand those museum services.

8.4.3 The Corporate Income Tax Deduction

While the corporate income tax does not apply to the primary and related activities of art museums, it does affect the donations made to art museums by other corporations. Such donations were not deductible under the corporate income tax until 1935, but it was fairly easy for corporations to make charitable expenses look like business expenses. As a consequence, early data on corporate charitable contributions is not very reliable. From 1936 to 1980, while corporations were allowed to deduct contributions up to 5 percent of taxable income, data in Clotfelter (1985a) show that gifts increased 14 times in real terms, from $91 million to $2.32 billion (in 1972 dollars). As a fraction of net income, however, these gifts were 0.28 percent in 1936 and 0.79 percent in 1980.

The maximum fraction of taxable income was raised from 5 to 10 percent in 1981, with little effect on most firms.[27] Only 7.5 percent of corporations make contributions of more than $500 per year, and less than one-quarter make any contribution. These differences are related to size and profitability, as contributions were made by 35 percent of profitable firms and only 2 percent of loss firms (Useem 1987). Contributions were made by 80 percent of corporations with assets exceeding $0.5 billion (0.1 percent of all corporations), and these account for 50 percent of all corporate gifts. Still, most of these firms give less than 5 percent of income, and corporate giving averages less than 2 percent of corporate income.

Corporations and individuals donate similar percentages of income, on av-

27. The 1981 act also reduced the measure of taxable income, however, so the limit on deductions for some firms may actually fall. Also, firms may use a figure like 5 percent as a rule of thumb, or as a goal for enhancing their corporate image. For example, the Greater Minneapolis Chamber of Commerce honors area firms giving at least 5 percent of income. The lower measure of taxable income may have made it easier for some firms to attain that goal. Minneapolis reports that they honored 45 firms giving 5 percent in each year from 1979 to 1981, and from 71 to 76 firms in every year between 1983 and 1986.

erage, but corporate income is considerably smaller. Thus corporate gifts are about one-fifteenth the size of individual gifts (Clotfelter 1985a). In the nonreligious, nonprofit sector, where private gifts constitute 22 percent of total resources, corporate gifts account for only 2 percent of the total (Useem 1987).

For sufficient detail to isolate contributions to art, table 8.7 uses data collected by The Conference Board in their survey of major corporations (Troy 1984; Platzer 1988). For the major categories of beneficiaries, the table shows that gifts to health and human service organizations have fallen steadily from 42 percent of corporate gifts in 1972 to 28 percent in 1986; gifts to education and to civic organizations have increased slightly over the same period as percentages of corporate giving; gifts to the "other" category have fallen somewhat; and gifts to culture and art have more than doubled as a percent of total giving, from 4.1 percent in 1972 to 11.9 percent in 1986. The penultimate row of the table shows that total corporate gifts have increased from $1.0 billion to $4.5 billion over the period, so the category of culture and art has clearly been a major beneficiary of this trend. The bottom row shows that these gifts have almost doubled as a percent of pretax income.

The table also shows components of the culture and art category, where gifts to museums have increased from 1.8 percent of the total in 1974 to 2.3 percent in 1986. Gifts to art funds and councils and gifts to other categories have remained fairly stable. The most dramatic increase within culture and art is the subcategory for employee matching gifts. In other words, corporations are starting to direct their own gifts to the organization favored by their workers.

These breakdowns also depend on size and other characteristics of firms. Large firms are less likely to give to health and human services and more likely to give to education and to civic organizations. Gifts to culture and art are somewhat related to size.[28] Differences are more dramatic by industry. Firms in printing and publishing have been giving about 20 percent of gifts each year to art and culture, and the seven firms in the survey from the stone, clay, and glass industry are giving 38 percent to art and culture. Even more startling, the subcategory for museums gets 32 percent of the total gifts from this industry.

Why might a corporation make a donation, and how might taxes affect the donation? A firm trying to maximize profits for shareholders would seem to have few charitable motives, but donations might still be part of a package the firm can use to increase profits or share values indirectly. When Galaskiewicz (1986) asked top managers to rank a set of firms, he found that those with the largest giving programs were ranked as the most successful, even controlling

28. Among firms giving less than $500,000, the median firm gives 8.9 percent to culture and art, and among firms giving $5 million or more, the median gives 11.6 percent to culture and art (Platzer 1988).

Table 8.7 **Beneficiaries of Corporate Support as Percent of Total Giving**

	1972	1974	1976	1978	1980	1982	1984	1986
Health and human services	42.0	38.5	39.3	36.9	34.0	31.0	27.7	28.0
Education	36.9	36.0	37.3	37.0	37.8	40.7	38.9	42.9
Culture and art	4.1	7.3	8.2	10.1	10.9	11.4	10.7	11.9
Music	—	1.1	1.1	1.5	1.5	1.5	1.4	1.4
Museums	—	1.8	1.9	2.5	2.4	2.5	2.1	2.3
Public TV and radio	—	1.7	1.2	1.6	1.6	1.4	1.3	1.3
Art Funds and councils	—	1.0	0.7	0.8	0.9	0.7	0.6	0.7
Theaters	—	0.4	0.4	0.6	0.7	0.8	0.6	0.8
Cultural centers	—	—	0.9	1.0	1.1	0.8	1.0	0.7
Dance	—	—	0.1	0.2	0.3	0.3	0.2	0.3
Libraries	—	—	0.2	0.3	0.3	0.2	0.2	0.2
Employee matching	—	—	*	*	0.2	0.4	0.6	0.9
Other	—	1.0	0.7	0.7	0.8	1.1	1.1	1.0
Not identifiable	—	0.3	0.7	0.9	1.1	1.6	1.6	2.3
Civic and community	9.1	10.4	11.0	11.4	11.7	11.7	18.8	13.2
Other	6.6	7.7	4.2	4.5	5.6	5.2	3.9	4.0
Total	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0
In billions of dollars	1.0	1.2	1.5	2.1	2.4	2.9	4.1	4.5
Percent of pretax income	1.0	0.9	0.9	0.9	1.0	1.7	1.7	1.9

Sources: Troy (1984) and Platzer (1988).

Note: Category percentages do not add up to exactly 100 because of rounding. The percentage breakdowns by beneficiary category are based on survey responses from a different number of firms each year. The smallest number of companies was 370 (for 1986), and the largest number was 799 (for 1972). In the last two rows, however, the totals and percent of income figures reflect contributions of all U.S. corporations.

*Less than 0.1 percent.

for actual earnings and other measures of performance. Second, the publicity surrounding large gifts can act as a form of advertising. A certain kind of image can attract customers. Third, gifts to the community can make the community a more desirable place to live and work, possibly reducing labor costs. Fourth, the managers of the firm may be acting on their own motives rather than maximizing the profits of the firm. Several models of this type are reviewed in Clotfelter (1985a). Finally, a more tax-oriented reason for charity might lie in the double taxation of corporate source income. If the shareholders were going to be giving a certain amount to charity anyway, and if they can agree on the set and mix of beneficiaries, then they can save even more of the total tax on that income by making the donations at the corporate level instead of paying the corporate tax and then making donations out of personal income from dividends.

These alternative theories of corporate giving have implications for the effect of tax changes on donations. Both charitable expenses and advertising are deductible, so a change in the statutory corporate tax rate has no effect on the price of giving *relative* to the price of advertising. Thus, if gifts are a form of advertising, changes in the corporate rate may have no effect on gifts. But if shareholders want the corporation to donate for them, then the corporate rate does affect the overall price of giving. The actual effect of the corporate rate on gifts is subject to empirical investigation.

Large corporations with most charitable donations are all in the top corporate rate bracket, so cross-section data does not include enough variation in after-tax prices to allow estimation of a price elasticity. They generally find an income elasticity that is less than 1, as reviewed in Clotfelter (1985a). The corporate rate has changed over the years, however, so Schwartz (1968) and Nelson (1970) use time-series analysis to find price elasticities from 1.36 to 2.00, and from 1.03 to 1.18, respectively. Income elasticities may be less than 1 or greater than 1. The most recent and most thorough estimates are provided by Clotfelter (1985a), who uses two different samples (an aggregate time-series, and pooled observations of asset classes over time), two different after-tax price variables (one based on a constructed marginal tax rate and one based on an average effective tax rate), and several different measures of income (pretax income, post-tax income, or net cash flow). He obtains price elasticities between 0.20 and 1.75, and income elasticities between 0.40 and 1.14.

As pointed out by Clotfelter, differences among these estimates are attributable directly to differences in the variables used to measure prices and incomes. For the after-tax price of a gift at the margin, the conceptually correct variable is 1 minus the statutory marginal rate. The aggregate or pooled data do not supply a single marginal rate, however. When early work by Schwartz and later work by Clotfelter use the ratio of corporate taxes to corporate income (the average effective tax rate) as an approximation of the correct marginal rate, they get *high* estimates of the price elasticity. Nelson attempts to construct an estimate of the weighted-average marginal tax rate, and he gets

low price elasticities. When Clotfelter conducts complicated calculations of the statutory rate bracket faced by each firm in each asset class in each year—again to approximate the correct marginal rate—he gets price elasticities only from 0.20 to 0.57, depending on other specifications.

For income elasticities, early work by Schwartz and later work by Clotfelter again find similar distinctions based on the measure of income. The use of after-tax income implies elasticities less than 1 (as low as 0.53), and the use of after-tax cash flow implies elasticities greater than 1 (as great as 1.34).

These kinds of differences make it difficult to conclude anything definitive about the effect of taxes on corporate contributions to art museums. There is no consensus about the best estimated price or income elasticities, so there can be no certainty about predictions based on any one set of elasticities. For this reason, no attempt is made here to simulate the effects of the Tax Reform Act of 1986, as was done for changes to individual tax rates and giving. Clotfelter (1985a) seems to prefer price and income elasticities of 0.4 and 1.1, respectively, and he uses these values to find that the repeal of the corporate tax would reduce gifts by 7.2 percent. Although the price of gifts would rise by about 85 percent, the after-tax cash flow would increase by 17 percent, nearly offsetting the price increase (p. 221). In the case of the 1986 act, both effects work to reduce gifts: it reduced the statutory marginal tax rate (increased the price of giving) and simultaneously increased corporate tax burdens by $120 billion over 5 years. Still, the analysis is complicated by other changes such as the reduction of individual tax burdens and the possibility that corporations act on behalf of shareholders who can see through the corporate veil.

8.4.4 The Estate and Gift Tax

Aside from brief intervals, 1862 to 1870 and 1898 to 1902, the federal estate tax has been in operation continuously since 1916. It was initially levied at rates from 1 to 10 percent, and during World War I from 2 to 25 percent, with an exemption of $50,000. The current gift tax was enacted in 1932. The estate and gift tax rules were modified several times until 1942, when the exemption was set at $60,000 and the rates extended to 77 percent. This $60,000 exemption was fixed in nominal terms for the next 34 years, with the result that the number of taxable estates increased from 1.1 percent of all deaths in 1942, to 6.5 percent of all deaths in 1976 (Pechman 1987, 350).

In 1976, the exemption was converted to a tax credit that was equivalent to an exemption of more than $120,000. The top rate was reduced to 70 percent, and the estate and gift taxes were unified. In 1981, the unified credit was set to be increased in stages up to the current exemption equivalent of $600,000, the top rate was reduced in stages to the current top rate of 50 percent, and the deduction for marital bequests was increased from 50 percent to the current 100 percent of the estate. As a consequence of these changes, taxable estates

have fallen back from 6.5 percent of deaths in 1976 to 1.5 percent of deaths in 1985. In relation to total federal budget receipts, the estate ad gift tax has fallen from a peak of 2.3 percent to a current 0.9 percent (Pechman 1987, 370).

The gift tax represents a very small portion of this revenue, but its purpose clearly is to prevent the erosion of the estate tax base that would be made possible through inter vivos transfers to the same individuals. Under current rules, each spouse can give up to $10,000 per year tax-free to each child or other beneficiary, and excess gifts apply to the $600,000 lifetime exemption of the unified estate and gift tax. Similarly, the "generation-skipping transfer tax" is designed to prevent erosion of the estate tax base through trusts that provide income for the lifetime of the next generation (the children), where the remainder is given to the following generation (the grandchildren). Under all of these taxes, charitable donations are fully deductible.[29]

In 1985, 30,500 estates were taxable. These estates were worth $32.7 billion, but exemptions and deductions reduced the taxable portion to $24.4 billion. The total charitable deduction was $4.5 billion, an amount somewhat larger than corporate charitable deductions but still one-tenth the size of individual income tax deductions. The estate tax revenue after credits was $5.0 billion, one-fifth of the estate tax base. The great bulk of the wealth is in the largest few estates, however. Estates over $5 million account for 2 percent of taxable returns but 36 percent of the tax (Pechman 1987, 239).

While the estate tax is not a significant source of revenue, it still takes 40 percent of the taxable base for gross estates over $10 million. Thus the major reason for the tax may be its redistributive effect, or perceived redistributive effect. Bernheim (1987) has even suggested that the estate tax leads to a *reduction* in total tax revenue, by encouraging more inter vivos transfers of assets to children whose income is then subject to lower personal marginal tax rates.

While charitable bequests are a small portion of total charitable giving, they are a crucial source of art for museums (see Richard N. Rosett, chap. 6 in this volume). This difference is related to evidence that the distribution of charitable deductions under the estate tax is even more skewed than charitable deductions under the income tax. Charitable bequests constitute less than 1 percent of small estates, but this fraction rises to 48 percent of the largest estates (Clotfelter 1985a, 230). These large estates are more likely to give to museums. Detailed data are not available, but Clotfelter (p. 232) indicates that bequests to religious organizations account for two-thirds of total charitable bequests of small estates and less than 1 percent of total charitable bequests

29. Depending on the desires of the donor, arrangements can be made to split up the control of the assets, the income from the assets, and the remaining interests in the assets, through charitable remainder trusts, pooled income funds, or charitable lead trusts. See Arthur Andersen (1987). Although art may be left in the control of an heir for his or her lifetime before donation to a museum, these trusts are most commonly associated with income-producing property.

for the largest estates; bequests to educational, scientific, and literary organizations show no clear relation to estate size; and bequests to other charitable organizations (including foundations) increase as a fraction of estate size.

The largest estates provide most of the charitable bequests *and* give more than proportionately to the arts, so the price of giving to art museums depends on the top marginal rate under the estate tax even more than under the income tax. As is not true under the income tax, however, appreciated property is never subject to capital gains tax at the time of death. Instead, the "basis" for the heir is increased to the fair market value of the property at the time of inheritance. Thus, the forgiveness of capital gains tax is not an additional benefit of donation to charity, as it is under the income tax. The after-tax price of giving to charity, rather than to an heir, is just 1 minus the estate tax rate. The situation is more complicated under different alternatives, however, as described by Boskin (1976). If the alternative to giving property to charity at death is to consume the proceeds during life, then the relative price does involve the capital gains tax that would have to be paid upon sale. Or, if the alternative to a charitable donation at death is a donation to the same charity during life, the *relative* price may involve the personal income tax rate, the capital gains rate, the estate tax rate, and the interest rate that can be earned on funds retained until death. Nonetheless, most empirical studies of the price elasticity simply use 1 minus the estate tax rate as the price of a charitable bequest.[30]

Empirical work in this area finds that charitable bequests are related to the after-tax price, the size of the estate, and the age and marital status at the time of death. Most studies find very large price elasticities for charitable bequests. Interestingly enough, they tend to find that the price elasticity falls as the estate size becomes larger. When Boskin (1976) uses 1969 estate tax returns, for example, he finds that the elasticity with respect to estate size is 0.40 and that the price elasticity falls from 2.53 for the smaller estates to 0.20 for the largest estates. Using 157–59 returns, the price elasticity ranges from 1.8 for the smallest to 0.94 for the largest. Feldstein (1977) finds that the price elasticity ranges from 4.0 for the smallest estates to 0.3 for the largest estates. In contrast, Barthold and Plotnick (1984) find that the after-tax price is not a significant determinant of charitable bequests.

Finally, Clotfelter (1985a) uses more recent 1976 data, varies the functional forms, and recalculates previous results. He finds high price elasticities, ranging from 3.70 for the smallest estates (those with price greater than 0.8) to 1.77 for the largest estates (those with price less than 0.6). He also simulates the effects of recent estate tax changes, using 1.6 for the price elasticity of estates less than $1 million (and 0.4 for the elasticity with respect to estate

30. Similarly, when empirical work discussed in section 8.3.5 uses 1 minus the personal tax rate, amended for the capital gains tax, it assumes that the alternative to the current gift is current consumption. If the alternative to lifetime giving is donation at death, then the price in those regressions would involve the estate tax.

size). Because of uncertainties about the estimated coefficients, he uses alternative values of 1.0 or 2.4 for the price elasticity of large estates. Results suggest that the 1981 changes could reduce total charitable bequests by 34 to 52 percent, but could reduce charitable bequests of the very largest estates by 50 to 84 percent. As a consequence, if donations of art are concentrated in the largest estates, and if the price elasticity is as high as 2.4, then the 1981 reduction in the top marginal estate tax rate from 70 to 50 percent could have a very major impact on bequests to art museums.

8.5 Conclusion

Although art museums do not pay any substantial taxes, they are greatly affected by various U.S. tax rules. The individual receives a deduction for donations of art to museums, the estate gets a deduction for bequests, and the corporation gets a deduction for charitable gifts. These deductions might be viewed as the logical consequence of taxing a measure of income defined as funds available for personal consumption, excluding funds given to a public cause. Alternatively, they might be an explicit policy to encourage gifts. Whatever the justification, when taxes raise the cost of undertaking activities that are not deductible, these provisions clearly lower the relative cost of making donations. In this sense, art museums receive an implicit subsidy.

Art museums also are not taxed on investment income or on some related business activities. Again these provisions might be justified in a number of ways, but the effect of taxes is to raise the cost of other private activities and thus lower the relative cost of museum activities.

The tax expenditure is defined as the amount that would have been collected from museums if they had been fully taxed. In combination, this set of tax provisions is found to have a tax expenditure that is larger than direct federal expenditures on art museums in the United States. However, the amount of this tax expenditure or implicit subsidy has been falling in recent years because of reductions in the marginal personal income tax rates at which individuals deduct gifts.

A review of the empirical literature reveals that individuals and corporations are indeed fairly responsive to the incentive inherent in this deductibility. High-income taxpayers are found to be the most responsive to marginal tax rate, and they also tend to give the largest amounts to the arts. Therefore, the level of the top personal marginal tax rate is particularly important to art museums. Simulations here suggest that the personal marginal rate reduction in the Tax Reform Act of 1986 could greatly reduce gifts to the arts.

Other countries tend to have smaller implicit tax subsidies but larger direct spending on the arts. What might be the advantages or disadvantages of each approach? If the primary justification for public aid is the educational benefits of art museums, for example, then a government using the direct approach might be able to specify that arts funds be used for educational functions. Or,

if the goal is to make art opportunities more accessible to a wider audience, it might direct funds toward traveling exhibitions. A disadvantage is that art funding is subjected to the political process.

The United States provides relatively more implicit aid. Deductibility is available for gifts to art museums that may be used for purposes specified by the donor rather than by the government. In effect, we seem to have decided that the possible advantage of direct spending is outweighed by the need to avoid undue political influence.

Appendix A
Price Elasticities and Simulation

In order to estimate price and income elasticities, researchers often assume that charitable behavior is determined by:

$$G = AP^bY^c, \tag{1}$$

where G is the amount of giving, P is the price, Y is income, and A is a function of other characteristics. In this case b is the price elasticity, as can be confirmed by taking the derivative of G with respect to P: $dG/dP = bAP^{b-1}Y^c = bG/P$, so $b = (dG/G)/(dP/P)$. The income elasticity is $c = (dG/G)/(dY/Y)$. In this particular functional form, these parameters are constant across different prices and income levels (though giving is not). The next step is to take the natural logarithm of (1) and run linear regressions on:

$$\ln(G) = \ln(A) + b\cdot\ln(P) + c\cdot\ln(Y). \tag{2}$$

Since equation (2) relates the consumer's spending on gifts to the price of gifts, it is essentially a downward-sloping demand curve. Giving falls when the price rises, but it is common to refer to the absolute value of the elasticity as a measure of responsiveness.

If the data separate the amount of cash gifts from the amount of appreciated property, then the after-tax price for total giving of the household is a weighted average of the price for cash gifts and the price for property gifts:

$$P = C(1 - t) + (1 - C)\cdot[1 - t - a \cdot g] \tag{3}$$

where C is the fraction given in cash, t is the marginal tax rate for the deduction, a is the discounted ratio of appreciation to value, and g is the capital gains tax rate. The two tax rates are equal under current law, so for our example with the rate of 28 percent, equation (3) provides $(1 - t - a \cdot g) = 1 - .28 - (.2)(.28) = .664$ for the price of giving appreciated property. Also, this price implies that the alternative to the gift is consumption. If the alternative is a bequest, the estate tax matters (Clotfelter 1985b).

Each household is typically assigned the average fraction given in cash for its income group. The amount of appreciation is not available, but Feldstein and Clotfelter (1976) find that $a = .5$ provides the best fit for the data. Subsequent researchers typically assume this ratio.

A major purpose of estimating the price and income elasticities for charitable giving is to measure the effect of changes in tax policy. Since the form of equation (1) assumes that the elasticity is constant over a range of prices, the estimates can be used to "predict" changes in gifts even for a large discrete change in the after-tax price. Suppose that G_0 is the observed amount of giving, as determined by $A(P_0)^bY^c$, and that tax policy changes the price from P_0 to P_1. The predicted new level of giving is $G_1 = A(P_1)^bY^c$, but division implies that $(G_1/G_0) = (P_1/P_0)^b$. Then multiplication by G_0 provides:

$$G_1 = G_0 \cdot (P_1/P_0)^b. \tag{4}$$

This equation "predicts" new gifts using only observations on old gifts, the statutory change in tax rates, and existing estimates of b.

Appendix B
The Cost of Capital

For simplicity, suppose that a firm pays corporate tax at rate u on earnings after deductions for economic depreciation at replacement cost. It faces a certain interest rate i and inflation rate π. It considers a hypothetical marginal investment that must earn a nominal required after-tax rate of return r, the discount rate. Suppose that the return c falls due to depreciation at rate δ, and is discounted at rate r. The equilibrium condition is that the marginal one dollar outlay must be matched by the present value of after-tax earnings (see Hall and Jorgenson 1967):

$$1 = \int_0^\infty c(1-u)e^{(\pi-\delta)t}e^{-rt}\,dt + uz = \frac{c(1-u)}{r-\pi+\delta} + uz, \tag{5}$$

where z is the present value of depreciation allowances at rate δ, discounted at $r - \pi$. Thus, with economic depreciation at replacement cost, $z = \delta/(r - \pi + \delta)$. We solve for c, substitute for z, and define ρ as $c - \delta$, the pretax return:

$$\rho = c - \delta = \frac{r-\pi+\delta}{(1-u)}(1-uz) - \delta = \frac{r-\pi}{1-u}. \tag{6}$$

Regardless of the actual source of finance, the firm could always forgo the investment and retire debt (or increase interest-bearing assets) instead, so the discount rate is the interest cost of the funds. In other words, because of arbi-

trage between this real investment and the interest rate alternative, these cost-of-capital comparisons pertain even if the investment is actually financed by equity of the taxable corporation or of the exempt organization.

For a taxable firm, the alternative is to save $i(1 - u)$ on its debt (or to earn $i[1 - u]$ on interest-bearing assets), so $r = i(1 - u)$ and:

$$\rho_{\text{taxable}} = i - \frac{\pi}{1 - u}. \tag{7}$$

For a nontaxable entity considering the same investment project, the required rate of return that it can earn on other assets is $r = i$, the market interest rate. However, u is zero, so:

$$\rho_{\text{nontaxable}} = i - \pi. \tag{8}$$

Thus, with no inflation, the cost of capital for the two types of investors would be identical. In fact, in this simple example with economic depreciation at replacement cost, higher inflation causes the cost of capital for the taxable firm to fall *below* that of the exempt firm. The taxable firm's cost of capital and effective tax rate may be even lower if it receives an investment credit or depreciation that is more accelerated than economic allowances at replacement cost. In the more general case, with historical cost depreciation and taxation of nominal capital gains, inflation might raise the cost of capital for the taxable firm above that of the exempt firm.

References

Andrews, William D. 1972. Personal Deductions in an Ideal Income Tax. *Harvard Law Review* 86, no. 2 (December): 309–85.

Anthoine, Robert. 1987. Charitable Contributions after the 1986 Tax Act and Problems in Valuation of Appreciated Property. *Columbia–VLA Journal of Law and the Arts* 11, no. 2: 283–314.

Arthur Andersen & Co. 1987. *Tax Economics of Charitable Giving*. 10th ed.

Banfield, Edward C. 1984. *The Democratic Muse: Visual Arts and the Public Interest*. New York: Basic Books.

Barthold, Thomas, and Robert Plotnick. 1984. Estate Taxation and Other Determinants of Charitable Bequests. *National Tax Journal* 37:225–37.

Baumol, William J., and William G. Bowen. 1966. *Performing Arts: The Economic Dilemma*. New York: The Twentieth Century Fund.

Bernheim, B. Douglas. 1987. Does the Estate Tax Raise Revenue? In *Tax Policy and the Economy*. Vol. 1, ed. L. Summers. Cambridge: MIT Press.

Boskin, Michael J. 1976. Estate Taxation and Charitable Bequests. *Journal of Public Economics* 5:27–56.

Clotfelter, Charles T. 1980. Tax Incentives and Charitable Giving: Evidence from a Panel of Taxpayers. *Journal of Public Economics* 13:319–40.

———. 1985a. *Federal Tax Policy and Charitable Giving*. Chicago: University of Chicago Press.

———. 1985b. The Effect of Tax Simplification on educational and Charitable Organizations. In *Economic Consequences of Tax Simplification*. Boston: Federal Reserve Bank.

Clotfelter, Charles T., and C. Eugene Steuerle. 1981. Charitable Contributions. In *How Taxes Affect Economic Behavior*, ed. Henry J. Aaron and Joseph A. Pechman. Washington, DC: The Brookings Institution.

Commerce Clearing House. 1988. *1989 U.S. Master Tax Guide*. Chicago.

Copeland, John, and Gabriel Rudney. 1986. Business Income of Nonprofits and Competitive Advantage. Parts 1, 2. *Tax Notes* (24 November): 747–56; (29 December): 1227–36.

Cummings, Milton C., and Richard S. Katz, eds. 1987. *The Patron State: Government and the Arts in Europe, North America, and Japan*. New York: Oxford University Press.

Dye, Richard F. 1978. Personal Charitable Contributions: Tax Effects and Other Motives. In *Proceedings of the Seventieth Annual Conference on Taxation*. 311–21. Columbus: National Tax Association—Tax Institute of America.

Feld, Alan L., Michael O'Hare, and J. Mark Davidson Schuster. 1983. *Patrons Despite Themselves: Taxpayers and Arts Policy*. New York: New York University Press.

Feldstein, Martin. 1975a. The Income Tax and Charitable Contributions: Part 1—Aggregate and Distributional Effects. *National Tax Journal* 28:81–97.

———. 1975b. The Income Tax and Charitable Contributions: Part 2—The Impact of Religious, Educational, and Other Organizations. *National Tax Journal* 28:209–26.

———. 1977. Charitable Bequests, Estate Taxation, and Intergenerational Wealth Transfers. In *Research Papers*. Commission on Private Philanthropy and Public Needs, vol. 3. Washington DC: Treasury Department.

———. 1980. A Contribution to the Theory of Tax Expenditures: The Case of Charitable Giving. In *The Economics of Taxation*, ed. H. J. Aaron and M. J. Boskin. Washington, DC: Brookings Institution.

Feldstein, Martin, and Charles Clotfelter. 1976. Tax Incentives and Charitable Contributions in the United States: A Microeconomic Analysis. *Journal of Public Economics* 5:1–26.

Feldstein, Martin, and Amy Taylor. 1976. The Income Tax and Charitable Contributions. *Econometrica* 44:1201–21.

Fremont-Smith, Marion R. 1965. *Foundations and Government*. New York: Russell Sage Foundation.

———. 1972. *Philanthropy and the Business Corporation*. New York: Russell Sage Foundation.

Galaskiewicz, Joseph. 1986. *Gifts, Givers, and Getters: Business Philanthropy in an Urban Setting*. New York: Academic Press.

Giving USA. 1989. New York: American Association of Fundraising Counsel, Inc.

Grabowski, Joseph, and Evan Soffer. 1988. Trends in Tax Exempt organizations. In *Trend Analyses and Related Statistics*. 1988 Update. Washington, DC: U.S. Internal Revenue Service.

Hall, Robert, and Dale W. Jorgenson. 1967. Tax Policy and Investment behavior. *American Economic Review* 57 (June): 391–414.

Louis Harris and Associates, Inc. 1975, 1988. *Americans and the Arts*. New York: National Research Center of the Arts.

Nelson, Ralph L. 1970. Economic Factors in the Growth of Corporation Giving. National Bureau of Economic Research Occasional Paper 111. New York: NBER and Russell Sage Foundation.

Netzer, Dick. 1978. *The Subsidized Muse*. Cambridge: Cambridge University Press.

Neubig, Thomas S., and David Joulfaian. 1988. The Tax Expenditure Budget Before

and After the Tax Reform Act of 1986. OTA Paper 60. Washington, DC: U.S. Treasury Department.

Organization for Economic Co-operation and Development. 1986. *Personal Income Tax Systems*. Paris: OECD.

———. 1988. *Taxation of Net Wealth, Capital Transfers and Capital Gains of Individuals*. Paris: OECD.

Pechman, Joseph A. 1987. *Federal Tax Policy*. Washington, DC: Brookings Institution.

Platzer, Linda Cardillo. 1988. *Survey of Corporate Contributions*. New York: The Conference Board.

Price Waterhouse. 1988. *Individual Taxes: A Worldwide Summary*. London.

Radich, Anthony J., ed. 1987. *Economic Impact of the Arts*. Washington, DC: National Conference of State Legislatures.

Ratner, Sidney. 1980. *Taxation and Democracy in America*. New York: Octagon Books.

Reece, William S. 1979. Charitable Contributions: New Evidence on Household Behavior. *American Economic Review* 69:142–51.

Rose-Ackerman, Susan. 1982. Unfair Competition and Corporate Income Taxation. *Stanford Law Review* 34:1017–39.

Schiff, Jerald. 1988. The Unrelated Business Income Tax: An Economic Analysis of "Unfair Competition." Tulane University. Manuscript.

Schuster, J. Mark Davidson. 1986. Tax Incentives as Arts Policy in western Europe. In *Nonprofit Enterprise in the Arts*, ed. Paul T. DiMaggio. New York: Oxford University Press.

———. 1988. Perspectives on the American Audience for Art Museums. Massachusetts Institute of Technology, Cambridge, Mass. Manuscript.

Schwartz, Robert A. 1968. Corporate Philanthropic Contributions. *Journal of Finance* 23:479–97.

Scitovsky, Tibor. 1983. Subsidies for the Arts: The Economic Argument. In *Economics of Cultural decisions*, ed. W. S. Hendon and J. L. Shanahan. Cambridge, Mass.: Abt Books.

Simon, John G. 1987. The Tax Treatment of Nonprofit Organizations: A Review of Federal and State Policies. *The Nonprofit Sector*, ed. W. W. Powell. New Haven: Yale University Press.

Slemrod, Joel. 1988. Are Estimated Tax Elasticities Really Just Tax Evasion Elasticities? The Case of Charitable Contributions. NBER Working Paper no. 2733. Cambridge, Mass.

Throsby, C. D., and G. A. Withers. 1983. Measuring the Demand for the Arts as a Public Good: Theory and Empirical Results. In *Economics of Cultural Decisions*, ed. W. S. Hendon and J. L. Shanahan. Cambridge, Mass.: Abt Books.

Troy, Kathryn. 1984. *Annual Survey of Corporate Contributions*. New York: The Conference Board.

U.S. Congress, Joint Committee on Internal Revenue Taxation. 1969. *General Explanation of the Tax Reform Act of 1969*. Washington, DC.

U.S. Congress, Joint Committee on Taxation. 1984. *General Explanation of the Revenue Provisions of the Deficit Reduction Act of 1984*. Washington, DC.

———. 1986. *General Explanation of the Tax Reform Act of 1986*. Washington, DC.

U.S. Congress, Hearings before the Oversight Subcommittee of the House Ways and Means Committee. 3 June 1986.

U.S. Internal Revenue Service. 1988. *Income Tax Compliance Research*. Publication 1415:7–88. Washington, DC.

U.S. Treasury. 1987, 1988. Testimony of O. Donaldson Chapoton before the Subcommittee on Oversight of the House Ways and Means Committee. 22 June 1987; 9 May 1988.

Useem, Michael. 1987. Corporate Philanthropy. In *The Nonprofit Sector,* ed. W. W. Powell. New Haven: Yale University Press.

Vickery, William. 1975. Private Philanthropy and Public Finance. In *Altruism, Morality, and Economic Theory,* ed. E. S. Phelps. New York: Russell Sage Foundation.

Weisbrod, Burton A. 1975. Toward a Theory of the Voluntary Nonprofit Sector in a Three-Sector Economy. In *Altruism, Morality, and Economic Theory,* ed. E. S. Phelps. New York: Russell Sage Foundation.

———. 1988. *The Nonprofit Economy.* Cambridge, Mass.: Harvard University Press.